



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER OF PATENTS AND TRADEMARKS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

W

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/666,398	09/20/2000	Paul A. P. Kaufholz	PHN 17-643	8968

24737 7590 06/02/2003

PHILIPS ELECTRONICS NORTH AMERICAN CORP
580 WHITE PLAINS RD
TARRYTOWN, NY 10591

EXAMINER

STORM, DONALD L

ART UNIT	PAPER NUMBER
----------	--------------

2654

141

DATE MAILED: 06/02/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.	Applicant(s)	
09/666,398	KAUFHOLZ, PAUL A. P.	
Examiner	Art Unit	
Donald L. Storm	2654	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 14 April 2003.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-4 and 6-11 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-4 and 6-11 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☐ Notice of Draftperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ 6) ☐ Other: _____

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114.

The Applicant's AMENDMENT AFTER FINAL REJECTION, filed on March 4, 2003 (paper 11, certificate of mailing 2/25/03), has been entered. An action continuing examination on the merits follows. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Claim Informalities

2. The Examiner notes, without objection, the possibility of informalities in the claims. The Applicant may wish to consider changes during normal review and revision of the disclosure.

In claim 11, should the phrase "sign al" be --signal--?

Claim Rejections - 35 USC § 103

Linder

3. Claims 1, 6, and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Linder [International Publication WO 98/01956], already of record.

4. Regarding claim 11, Linder [at page 1, lines 8-23] describes a speech recognition apparatus that cancels noise for easier command recognition, comprising:

at least two independent audio sources generating audio source signals [at page 13, lines 7-11, as horns, whistles, or other noise generators each having its own characteristic and functioning simultaneously];

an audio input for receiving an audio signal from a microphone [at page 3, line 29-page 4, line 1, as an information signals interface for receiving a voice signal, such as a microphone];

at least two audio inputs for receiving audio signals from audio sources [at page 4, lines 19-23, as an input interface for receiving an audible signal which is emitted by a noise generator and at page 13, lines 7-8, as a duplicate of the apparatus];

the audio sources are respective to the audio inputs [at page 4, line 27-page 5, line 1, as the second microphone is located at or close enough to pick up for identification the noise signal and at page 13, lines 7-11, as other noise generators each having its own characteristic used with a duplicate of the apparatus];

the audio sources are independent [at page 4, line 27-page 5, line 1, as the characteristic for identification of the noise signal and at page 13, lines 7-11, as other noise generators each having its own characteristic];

both the audio sources contribute to the audio signal from the microphone from being within a proximity to a sensitivity range of the microphone [at page 5, lines 20-23, as the siren noise is received by the microphone that receives the information signal and at page 13, lines 7-11, as other noise generators are functioning simultaneously in the duplicated apparatus];

an audio cancellation module [at page 6, lines 22-25, as a microprocessor that forms a processed signal with substantial information and negligible noise];

the audio cancellation module being operative to produce a speech signal by canceling the at least two audio source signals from the signal received from the microphone [at page 6, line 22- page 7, line 2, as a microprocessor that forms a processed signal by canceling the noise component of the signal while substantially maintaining the voice signal received by the microphone and at page 13, lines 7-8, as a duplicate of the apparatus used in systems when other noise generators are functioning simultaneously].

Linder [at page 13, lines 7-11] describes at least two independent audio sources generating audio source signals as horns, whistles, or other noise generators each having its own characteristic and functioning simultaneously. Therefore, when Linder describes duplicating the apparatus and method for use in the environment of other noise sources, Linder does not explicitly describe that both of the at least two audio sources contribute to the microphone receiving the information signal. However, it would have been obvious to one of ordinary skill in the art of noisy signal cancellation that the reason for Linder to teach duplicating the noise cancellation apparatus and method is because the signal received by the microphone receiving the information has contributions from at least two of the audio source signals that Linder describes in the noisy environment being within the sensitivity range of the information microphone.

5. Claim 1 sets forth limitations similar to limitations set forth in claim 11. Linder describes and makes obvious the limitations as indicated there. Linder also describes additional limitations as follows:

 a speech recognizer [at page 10, lines 5-9, as a speech recognition circuit];
 for recognizing at least part of the speech signal [at page 1, lines 18-20, as recognizing voice commands understood from a user's voice message].

Linder [at page 13, lines 7-11] describes at least two independent audio sources generating audio source signals as horns, whistles, or other noise generators each having its own characteristic and functioning simultaneously. Therefore, when Linder describes duplicating the apparatus and method for use in the environment of other noise sources, Linder does not explicitly describe that both of the at least two audio sources contribute to the microphone receiving the information signal. However, it would have been obvious to one of ordinary skill in the art of noisy signal cancellation that the reason for Linder to teach duplicating the noise cancellation apparatus and method is because the signal input to the microphone receiving the information has contributions from at least two of the audio source signals that Linder describes in the noisy environment being within the sensitivity range of the information microphone.

6. Claim 6 is set forth including the limitations of claim 1. Linder describes and make obvious those limitations as indicated there.

Linder also describes additional limitations as follows:

the speech recognition apparatus includes at least one audio input for receiving an audio signal from an audio source external to the apparatus [at page 4, lines 19-23, as an input interface for receiving an audible signal which is emitted by a noise generator and picked up by the second microphone;

the audio signal being received substantially for the purpose of canceling this audio signal from the microphone signal [at page 6, line 28-page 7, line 7, as the effect is to cancel the noise component while maintaining the information component].

Eriksson and Linder

7. Claims 1 and 7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Eriksson [US Patent 5,033,082] in view of Linder [International Publication WO 98/01956], both already of record.

8. Regarding claim 7, Eriksson [at column 2, lines 46-51 and Figure items 58, 66, 92, 98] describes electrical cancellation of source 14 and speaker 30 from the microphone 36 signal 98 at speaker 34:

at least two audio source apparatuses [at column 1, lines 46-60, as noise source 14 sensed by microphone 36 at location 24 and person 30 and noise source 18 sensed by microphone 38 at location 28];

an audio cancellation module [at column 2, lines 46-51, as model 56 electrically canceled noise from noise source 14 and model 84 electrically canceled speech from person 30];

an audio input for receiving a signal [at column 2, lines 14-15, as summer 64 receives the output of microphone 36];

that is an audio signal from a microphone [at column 1, lines 58-59, as microphone 36 senses speech at location 24];

at least two audio inputs for receiving source signals [at column 2, lines 12-13, and at column 2, lines 24-27, as model 56 has input from microphone 20 and model 84 has speech input from microphone 38];

that are audio signals from respective audio sources [at column 1, lines 50-51 and lines 59-60 as microphone 20 senses noise from noise source 14 and microphone 38 senses noise and speech at location 28];

that are independent [at column 1, lines 47-55, as zone 12 is subject to noise from source 14 and a second zone 16 spaced from zone 12 is subject to noise from source 18 and includes speaking location 28 for person 30];

both the audio source signals contribute to the audio signal from the microphone [at column 2, lines 10-12 and column 2, lines 24-25, as noise from source 14 in the output 58 of microphone 36 and speech from person 30 in the output 58 of microphone 36];

the audio cancellation module canceling the at least two audio source signals from the audio signal from the microphone [at column 2, lines 46-51, as model 56 electrically canceled noise from noise source 14 and model 84 electrically canceled speech from person 30];

to produce a speech signal [at column 2, lines 51-53, as sum to speaker 34 contains speech from person 26].

Eriksson does not explicitly describe speech recognition. Eriksson [at column 1, lines 26-36], however, describes that canceling the noises enables enjoyment of an entertainment system and communication to and from a vehicle by telephone.

Linder [at page 1, lines 8-23] also describes canceling vehicle noise for better telephone communication, comprising:

at least two audio inputs for receiving audio signals from audio sources [at page 4, lines 19-23, as an input interface for receiving an audible signal which is emitted by a noise generator and at page 13, lines 7-8, as a duplicate of the apparatus];

the audio sources are respective to the audio inputs [at page 4, line 27-page 5, line 1, as the second microphone is located at or close enough to pick up for identification the noise signal and at page 13, lines 7-11, as other noise generators each having its own characteristic used with a duplicate of the apparatus];

the audio sources are independent [at page 4, line 27-page 5, line 1, as the characteristic for identification of the noise signal and at page 13, lines 7-11, as other noise generators each having its own characteristic];

both the audio sources contribute to the audio signal from the microphone from being within a proximity to a sensitivity range of the microphone [at page 5, lines 20-23, as the siren noise is received by the microphone that receives the information signal and at page 13, lines 7-11, as other noise generators are functioning simultaneously in the duplicated apparatus];

an audio cancellation module [at page 6, lines 22-25, as a microprocessor that forms a processed signal with substantial information and negligible noise];

the audio cancellation module being operative to produce a speech signal by canceling the at least two audio source signals from the signal received from the microphone [at page 6, line 22-page 7, line 2, as a microprocessor that forms a processed signal by canceling the noise component of the signal while substantially maintaining the voice signal received by the microphone and at page 13, lines 7-8, as a duplicate of the apparatus used in systems when other noise generators are functioning simultaneously].

Eriksson describes plural noise sources that contribute to the signal from the microphone and Eriksson uses duplicate noise canceling subcomponents in the apparatus and method to cancel the plural noise signals. However, neither Eriksson nor Linder explicitly describes plural audio sources that contribute to the information microphone by their proximity within the sensitivity range of the microphone.

Linder [at page 13, lines 7-11] describes at least two independent audio sources generating audio source signals as horns, whistles, or other noise generators each having its own characteristic and functioning simultaneously. Therefore, when Linder describes duplicating the

apparatus and method for use in the environment of other noise sources, however, it would have been obvious to one of ordinary skill in the art of noisy signal cancellation that the reason for Linder to teach duplicating the noise cancellation apparatus and method is because the signal received by the microphone receiving the information has contributions from at least two of the audio source signals that Linder describes in the noisy environment being within the sensitivity range of the information microphone.

Linder [at page 13, lines 7-11] points out that in systems with multiple noise generators the noise cancellation apparatus and method may be duplicated. By examining the figure in Eriksson, an artisan would realize that duplicating the noise cancellation is what Eriksson has done to deal with multiple noise sources. Accordingly, it would have been obvious to one of ordinary skill in the art of noise cancellation in speech recognition systems at the time of invention to follow Linder's direction to duplicate a noise cancellation method and apparatus by incorporating Eriksson's concept of duplicate noise cancellation apparatuses in the presence of at least two noise sources within the range of the input sensitivity of the information microphone because that would have produced a speech signal for Linder's speech recognizer from which the interfering noise from both noise sources and the interfering speaker had been canceled.

9. Claim 1 is set forth with limitations similar to claim 7. Linder and Eriksson describe and make obvious those limitations as indicated there.

Eriksson and Linder and Houser

10. Claims 2, 3, and 8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Eriksson [US Patent 5,033,082] in view of Linder [International Publication WO 98/01956], and further in view of Houser et al. [US Patent 5,774,859], all already of record.

11. Claim 8 is set forth including the limitations of claim 7. Eriksson and Linder describe and make obvious those limitations as indicated there.

Eriksson [at column 1, lines 26-36] describes that canceling the noise enables enjoyment of an entertainment system and communication to and from the vehicle by telephone. Linder [at page 10, lines 7-9] describes that canceling the noise enables a speech recognition circuit to control a device and an interface.

Houser [at column 17, lines 30-38] also describes a consumer entertainment system that includes a second input for noise cancellation, including [at column 6, lines 4-6] a speech recognizer for converting spoken audio into text or commands. Houser also describes additional limitations as follows:

a control unit [at column 5, line 62-63, as terminal unit processor];

in response to a spoken instruction of the user is recognized by the speech recognizer [at column 5, line 58-column 6, line 3, as executing commands recognized from spoken command data by the speech recognition algorithm];

for issuing at least one command message to an apparatus in the system [column 5, line 67-column 6, line 3 generating a command for controlling a device];

via a communication network [at column 7, lines 55-58, as a communication link, for example, a network].

By examining the figure in Eriksson, an artisan would realize that Eriksson has duplicated the noise cancellation apparatus to cancel two noise sources. Accordingly, it would have been obvious to one of ordinary skill in the art of noise cancellation in speech recognition systems at the time of invention to incorporate Eriksson's concept of duplicate noise inputs and noise cancellation apparatuses in Houser's front end to deal with two noise sources as taught by Linder because that would have provided a cleaner speech signal for Houser's speech recognizer since interfering noises from two independent noise sources could be canceled. To follow Linder's teaching of device control using a transmitter interface and speech recognition to include Houser's concepts of providing a network and network transmission as a link to the devices that Linder's or Houser's speech recognition would control.

12. Claim 2 is set forth including the limitations of claim 1, and with additional limitations similar to limitations set forth in claim 8. Eriksson, Linder, and Houser describe and make obvious those limitations as indicated there. Houser also describes further additional limitations as follows:

the command message is issued to a further apparatus [at column 7, lines 55-58, as the command is passed to a device].

13. Claim 3 is set forth including the limitations of claims 1-2. Eriksson, Linder, and Houser describe and make obvious those limitations as indicated there. Houser also describes additional limitations as follows:

the controller is operative to issue the command message according to a remote control messages associated with the further apparatus [at column 14, lines 40-47, as the terminal unit transmits commands to VCR by, for example, IR signals].

Eriksson and Linder and Allen

14. Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Eriksson [US Patent 5,033,082] in view of Linder [International Publication WO 98/01956] and further in view of Allen et al. [US Patent 5,485,515], all already of record.

15. Claim 4 is set forth including the limitations of claim 1. Eriksson and Linder describe and make obvious those limitations as indicated there. Linder [at page 1, lines 8-23] and Eriksson [at column 1, lines 32-33] describe telephone communications, and Eriksson [see Figure] describes speech and noise at both ends of a communication channel.

However, neither Eriksson nor Linder explicitly describes receiving the cancellation audio signals across a network.

Like Linder and Eriksson, Allen [at column 1, lines 22-28] describes that canceling the noises enables communication to and from a vehicle by telephone, and Allen describes:

at least one of the audio signals is received via the communication network from the associated audio source apparatus [at column 4, lines 8-12, as the noise indicative signal of the background noise in the near-end environment is received by the noise compensation system contained within the telephone network].

By examining the figure in Eriksson, an artisan would realize that Eriksson has placed the noise cancellation apparatus in the communication channel between two speakers. In Figure 1,

Allen has also placed the noise cancellation apparatus in the communication channel between two speakers. Allen [at column 4, lines 25-28] points out that by including the noise compensation system within the telephone network, the benefits of noise compensation to be obtained with the use of conventional terminal telephone equipment. In view of the similar presentations of Eriksson and Allen, it would have been obvious to one of ordinary skill in the art of noise cancellation at the time of invention to include Allen's concept of receiving the cancellation audio signal across a network for noise cancellation within the communication network connection (that is made obvious by Linder and Eriksson) because that would have provided the benefit of noise cancellation from more than one noise source connected to the network without requiring that specialized equipment be duplicated at each location.

Eriksson and Linder and Houser and Allen

16. Claims 9-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Eriksson [US Patent 5,033,082] in view of Linder [International Publication WO 98/01956] and Houser et al. [US Patent 5,774,859] and further in view of Allen et al. [US Patent 5,485,515], all already of record.

17. Claim 9 is set forth including the limitations of claims 7-8. Eriksson, Linder, and Houser describe and make obvious those limitations as indicated there. Houser [at column 7, line 58] also describes the network may be a telephone network, Linder [at page 1, lines 8-23] and Eriksson [at column 1, lines 32-33] describes telephone communications, and Eriksson [see Figure] describes speech and noise at both ends of a communication channel.

However, none of Eriksson, Linder, or Houser explicitly describes receiving the cancellation audio signals across a network.

Like Linder and Eriksson, Allen [at column 1, lines 22-28] describes that canceling the noises enables communication to and from a vehicle by telephone, and Allen describes:

at least one of the audio signals is received via the communication network from the associated audio source apparatus [at column 4, lines 8-12, as the noise indicative signal of the background noise in the near-end environment is received by the noise compensation system contained within the telephone network].

By examining the figure in Eriksson, an artisan would realize that Eriksson has placed the noise cancellation apparatus in the communication channel between two speakers. In Figure 1, Allen has also placed the noise cancellation apparatus in the communication channel between two speakers. Allen [at column 4, lines 25-28] points out that by including the noise compensation system within the telephone network, the benefits of noise compensation to be obtained with the use of conventional terminal telephone equipment. In view of the similar presentations of Eriksson and Allen, it would have been obvious to one of ordinary skill in the art of noise cancellation at the time of invention to include Allen's concept of receiving the cancellation audio signal across a network for noise cancellation within the communication network connection (that is made obvious by Linder, Eriksson and Houser) because that would have provided the benefit of noise cancellation from more than one noise source connected to the network without requiring that specialized equipment be duplicated at each location.

18. Claim 10 is set forth including the limitations of claims 7-9. Eriksson, Linder, Houser, and Allen describe and make obvious those limitations as indicated there. Houser also describes additional limitations as follows:

the audio cancellation module is located in an apparatus of the system [at column 6, lines 39-44, as terminal unit includes a front end for noise cancellation];

where the apparatus includes at least one audio input for receiving an audio signal from an audio source apparatus external to the apparatus; the audio signal being received substantially for the purpose of canceling this audio signal from the microphone signal [at column 17, lines 30-32, as the speech input device includes a second microphone which receives the television audio to be subtracted from the microphone input data].

Response to Arguments

19. The prior Office action, mailed January 14, 2003 (paper 10), objects to the title and rejects claims under 35 USC § 102 and § 103, citing Eriksson. The Applicant's arguments and changes in AMENDMENT AFTER FINAL REJECTION, filed on March 4, 2003 (paper 11) have been fully considered with the following results.

20. With respect to objection to the title, the changes entered by amendment are sufficiently descriptive. Accordingly, the objection is removed.

21. With respect to rejection of claims under 35 USC § 102 and § 103, citing Eriksson alone and in combination with Houser and Allen, the changes entered by amendment include the audio

signal input to and the audio signal from the microphone are from at least two audio sources being within the sensitivity range of the microphone.

The reference Eriksson does not explicitly describe that limitation and the current combination of Eriksson with Houser and Allen does not make such a limitation obvious. Accordingly, the rejections are removed. The Applicant's assertions with respect to Eriksson have been considered, but they are moot in view of the new claim element. Please see new grounds of rejection applied to address the new claim element.

22. With respect to rejection of claims under 35 USC § 103, citing Eriksson and Linder in combination, the Applicant's arguments appear to be as follows:

The Applicant's argument appears to be that the claimed features improve over prior art such as Eriksson. This argument is not persuasive because it does not point out a patentable distinction. Such arguments must be supported by an appropriate affidavit or declaration and to be of probative value, the affidavit or declaration must be factually supported by objective evidence. This argument is not persuasive because the features upon which the Applicant's argument relies are not commensurate in scope with the claims. The sounds picked up at much lower volume upon which the Applicant's argument relies for support is not recited in the claims.

The Applicant's arguments have been fully considered but they are not persuasive. Accordingly, the rejection is maintained.

Conclusion

23. Any response to this action should be mailed to:

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

or faxed to:

(703) 872-9314, (for formal communications intended for entry)

Or:

(703) 872-9314, (for informal or draft communications, and please label
"PROPOSED" or "DRAFT")

Hand-delivered responses should be brought to Crystal Park II, 2121 Crystal Drive,
Arlington, VA, Sixth Floor (Receptionist).

24. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Donald L. Storm, of Art Unit 2654, whose telephone number is (703)305-3941. The examiner can normally be reached on weekdays between 8:00 AM and 4:30 PM Eastern Time. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Marsha D. Banks-Harold can be reached on (703)305-4379. Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Technology Center 2600 Customer Service Office at telephone number (703)306-0377.

May 29, 2003

Donald L. Storm
Donald L. Storm
Patent Examiner
Art Unit 2654